



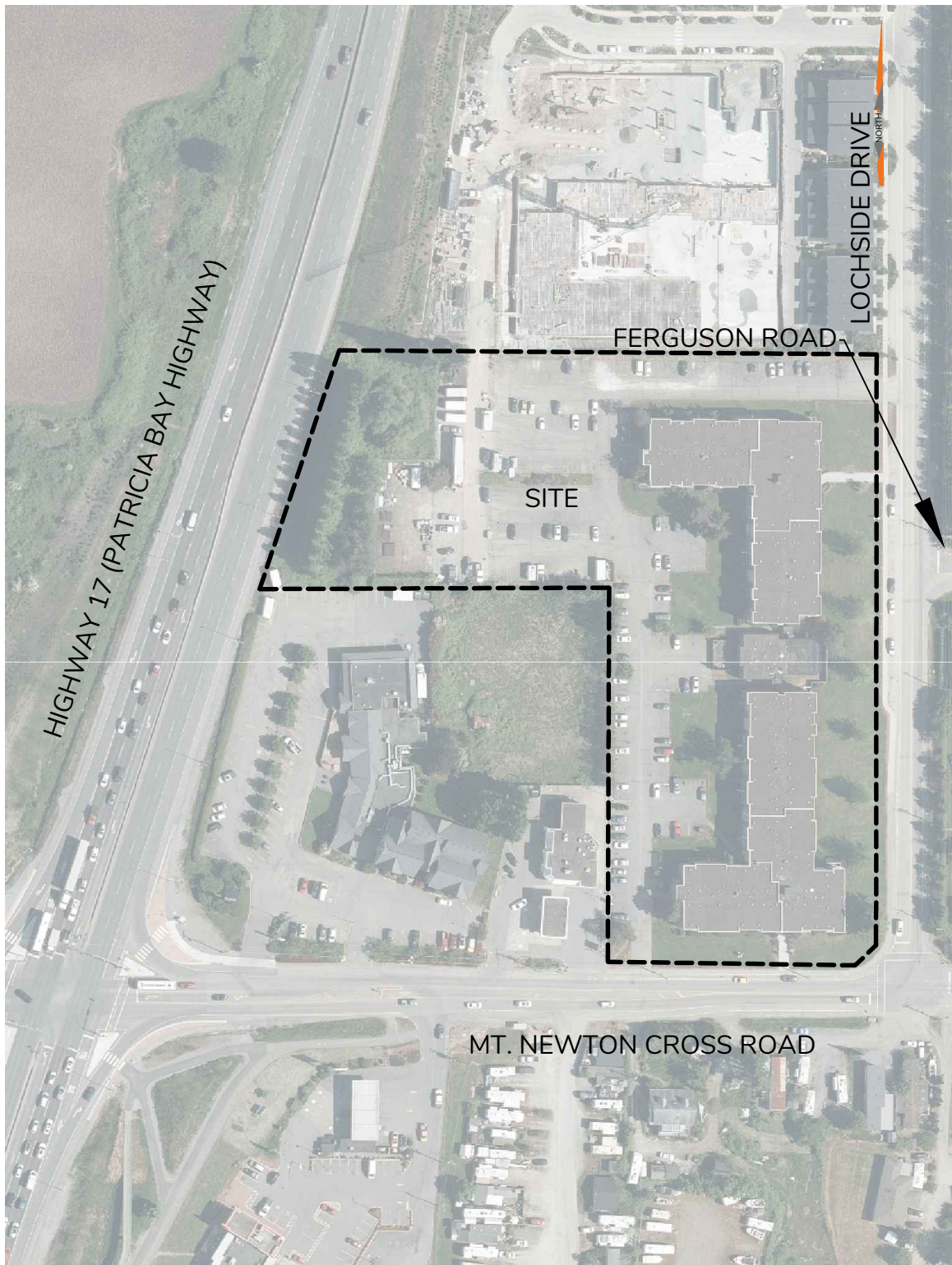
WATT VICTORIA  
302 - 740 Hillside Ave  
Victoria, BC V8T 1Z4  
250-388-9877

## MEMORANDUM

Date: May 3, 2024  
To: Dale Puskas, P.Eng., District of Central Saanich  
Cc: Kelsey Tyerman, Starlight Developments  
From: Noah Reeder, EIT and Andy Kading, P.Eng., P.E., WATT Consulting Group  
Our File No: 3734.B01  
Subject: 7840 Lochside Drive - TIA Addendum

### 1.0 INTRODUCTION

WATT Consulting Group was retained by Starlight Developments to undertake a Transportation Impact Assessment (TIA) for the proposed residential development at 7840 Lochside Drive in Central Saanich, BC. That TIA, dated October 5, 2023, forecasted that the Mt. Newton Cross Road / Lochside Drive and Lochside Drive / Ferguson Road intersections will operate acceptably for vehicles until at least 2036 with their current configuration. The site location is shown in **Figure 1**.



After reviewing the TIA, the District of Central Saanich (“the District”) has requested evaluation of the following:

- Examine and discuss wait times for making turns (particularly left turns) out at Ferguson Road and James Island Road
- The location and features of a proposed signed and marked crosswalk across Lochside Drive at or near Ferguson Road
- The allowable posted speed limit on Lochside Drive noting the All Ages and Abilities (AAA) cycling infrastructure, and
- Impacts of expected vehicle queuing along Mt. Newton Cross Road as it relates to one of the site accesses

## 2.0 FERGUSON ROAD AND JAMES ISLAND ROAD WAIT TIMES

Vehicles travelling from Ferguson Road and James Island Road onto or across Lochside Drive were observed on Tuesday, April 9, 2024 from 4:00 PM to 5:00 PM. **Table 1** shows the average time stopped for these vehicles by turning movement and the percentage of vehicles which came to a complete stop before proceeding. The average time stopped calculation assumes vehicles which came to only a rolling stop had stopped for zero (0) seconds.

Table 1 – Existing Wait Times for Selected Turning Movements

Movement	Number of Vehicles	Average Time Stopped (s)	% Making Full Stop
<b>Lochside Drive / Ferguson Road</b>			
WBL	13	5	46%
WBR	10	2	30%
<b>Lochside Drive / James Island Road</b>			
WBL	15	3	60%
WBT	1	11	100%
WBR	5	0	0%
EBL	1	14	100%
EBT	0	N/A	N/A
EBR	2	0	0%

None of the vehicles observed were required to stop behind another vehicle before approaching the stop bar. The average time stopped is not considered excessive given the low volume of vehicles making these movements. Volumes are not expected to increase due to the proposed development or adjacent concurrent developments along Lochside Drive.

If these results were to be translated into Highway Capacity Manual (HCM) Level of Service (LOS) scores most would be LOS A (0sec - 10sec of delay) or LOS B (10sec – 15sec of delay). LOS of D or better is considered to be within acceptable operating conditions for peak hour traffic.

### 3.0 LOCHSIDE DRIVE / FERGUSON ROAD CROSSWALK

The District proposes to add a signed and marked crosswalk across Lochside Drive at or near Ferguson Road.

Based on the 2026 and 2036 projected vehicle volumes outlined in the TIA, the current and WATT recommended posted speed limits (see below), and the expected crossing

distance, the Transportation Association of Canada (TAC)'s *Pedestrian Crossing Control Guide* recommends a standard crosswalk with side-mounted signs. This is contingent on the construction of a curb extension in the southbound parking lane (west side of road) to reduce the exposed crossing distance for pedestrians.

This recommendation does not account for the area demographics or expected crossing demand. District staff have noted a significant senior population on the east side of Lochside Drive, which may result in increased crosswalk use by more vulnerable pedestrians. Recent development in the area has introduced significant residential and some retail (coffee shop) land use, and more multi-family residential development is expected in the short term, all of which is expected to increase crossing demand. For these reasons, a crosswalk with Rectangular Rapid Flashing Beacons (RRFBs) may be implemented at this location. If RRFBs are implemented on this site, TAC considers the curb extensions optional.

The precise location for this proposed crosswalk was chosen to minimize loss of on-street parking, align with existing street lighting, and to ensure the necessary stopping prohibitions are accounted for. Without a curb extension on the west side, southbound stopping prohibitions would need to be introduced at least 15 m before and 10 m after the crosswalk to ensure vehicles in the parking lane do not obstruct the visibility of pedestrians about to enter the crosswalk. This would result in an overall loss of five (5) on-street parking spaces. A curb extension would provide better pedestrian visibility and, when implemented with TAC's minimum recommended curb radii and a crosswalk width of 3.0 m, would require removal of only two (2) southbound on-street parking spaces.

The RRFB crosswalk should feature the following:

- RRFBs and side-mounted signs (PS-003-L/R) mounted back-to-back on each side of Lochside Drive for northbound and southbound traffic, for a total of four (4) signs and four (4) RRFBs on two (2) poles.
- Zebra crosswalk markings
- Pedestrian pushbutton with sign (PS-015-D) on each side
- A curb extension into the parking lane on the west side of Lochside Drive
- Northbound stopping prohibition for a minimum of 10 m north of the crosswalk
- TAC also recommends a northbound stopping prohibition 15 m south of the crosswalk; however, this distance is entirely within the Lochside Drive / Ferguson Road intersection where vehicles are already prohibited from stopping.

Optionally, the following improvements may be made to the northeast corner of the intersection, shown in order of importance:

## MEMORANDUM

Date: 2024-05-03

To: Dale Puskas, P.Eng., District of Central Saanich

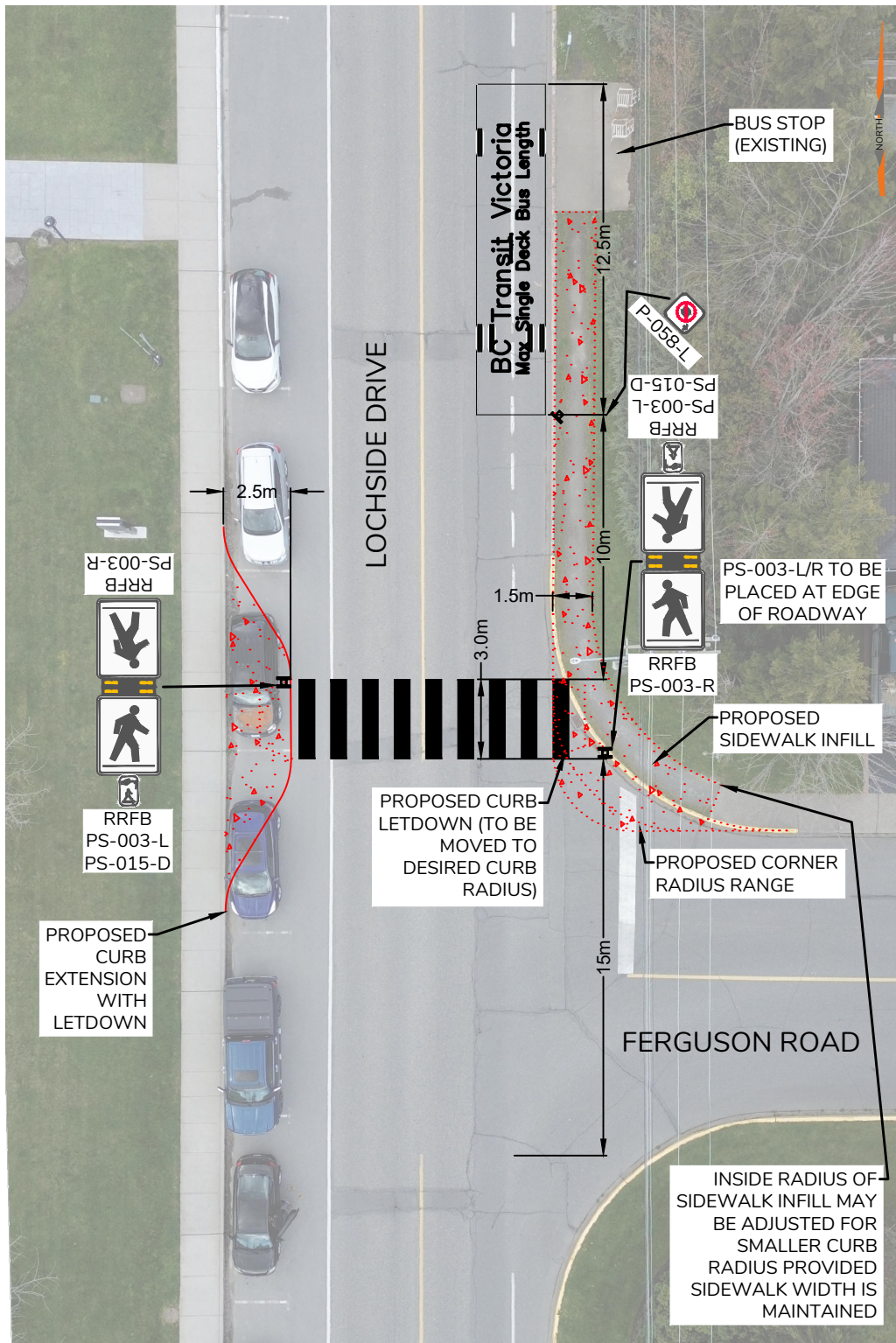
Subject: 7840 Lochside Drive - TIA Addendum

WATT CONSULTING GROUP

Page 6 of 12

1. Add a curb letdown facing the crosswalk to ensure accessibility for pedestrians with disabilities and other users.
2. Reduce the corner radius to the TAC recommended range of 3.0 to 5.0 m. TAC recommends smaller corner radii to reduce crossing distance and encourage lower speeds for right-turning vehicles. This corner currently has a radius of approximately 8.6 m.
3. Pave the existing gravel sidewalk from the corner to the bus stop north of the intersection, a distance of 18 m. This will improve accessibility and make the bus stop more appealing to all users.

A proposed conceptual design is shown in **Figure 2**.



## MEMORANDUM

Date: 2024-05-03

To: Dale Puskas, P.Eng., District of Central Saanich

Subject: 7840 Lochside Drive - TIA Addendum

WATT CONSULTING GROUP

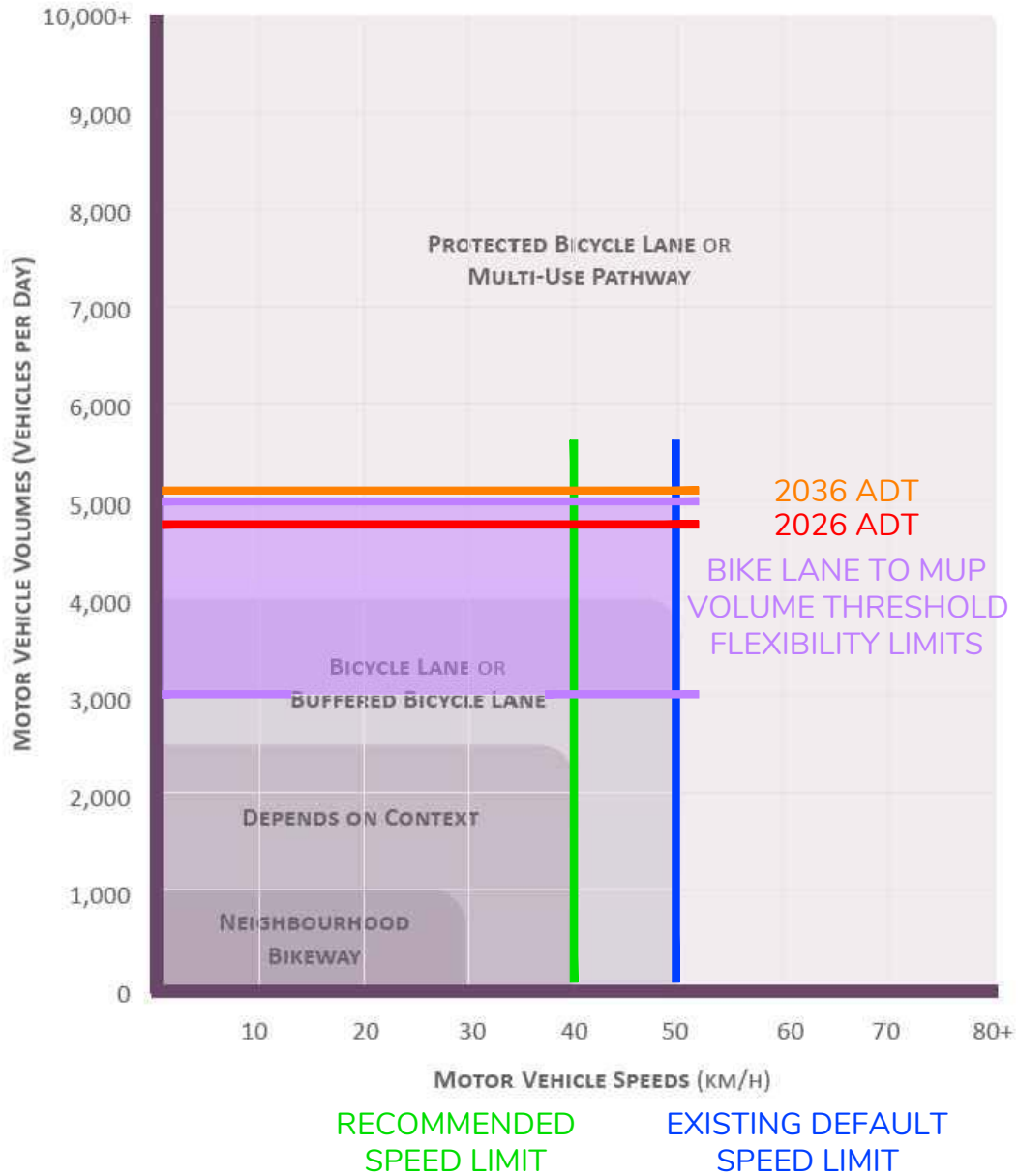
Page 8 of 12

### 4.0 LOCHSIDE DRIVE SPEED LIMIT

The portion of Lochside Drive along the site frontage is part of the Lochside Regional Trail, a popular walking and cycling route extending from downtown Victoria to the north end of the Saanich Peninsula. Based on the 2026 background vehicle volumes projected in the TIA for Lochside Drive, the *British Columbia Active Transportation Design Guide* (“the ATDG”) recommends protected bicycle lanes or a multi-use pathway. **Figure 3** shows the ATDG’s recommended facility types by motor vehicle volumes and speeds.



**BICYCLE FACILITY SELECTION DECISION SUPPORT TOOL**  
 URBAN / SUBURBAN / DEVELOPED RURAL CORE CONTEXT



NOTE:  
 2026 AND 2036 ADT ESTIMATED AS 10 TIMES BACKGROUND PM PEAK HOUR VOLUME NORTH OF LOCHSIDE DRIVE / FERGUSON ROAD FORECAST IN TIA

The ATDG provides flexibility of +/- 1,000 vehicles per day in defining the volume thresholds for different bicycle facility types. This flexibility allows unprotected bicycle lanes to be considered acceptable with up to 5,000 vehicles per day on the road. Lochside Drive, which in 2026 is expected to have average daily traffic (ADT) of 4,750 vehicles per the TIA, has not yet exceeded this threshold.

A default speed limit of 50 km/h currently exists on Lochside Drive along the site frontage. The ATDG considers this the maximum acceptable vehicle speed for an unprotected urban bicycle lane; however, the guide does not consider this a AAA facility which require a greater degree of protection/safety for people riding and rolling. If the existing cycling facilities cannot be protected or separated to AAA standards a significant safety improvement for all users may be achieved by reducing the posted speed limit on Lochside Drive where the bicycle facilities are present from 50km/h to 40km/h. Lower collision speeds greatly reduce the likelihood of death or permanent injury to pedestrians.

## **5.0 MT. NEWTON CROSS ROAD SITE ACCESS**

Based on current laning and the TIA's forecasted westbound 95<sup>th</sup> percentile queue lengths for the Highway 17 / Mt. Newton Cross Road intersection, queues are expected to obstruct the Mt. Newton Cross Road site access during the AM peak hour in 2026 and 2036. This is the case for both background and post-development conditions and is only expected during peak AM commuting times. Queuing is not expected to obstruct the site access during the PM peak hour although it may occur none the less.

The District's Engineering Review Comments dated March 7, 2024 call for a right-in/right-out access restriction enforced by a raised concrete median. This would remove the possibility of eastbound queues caused by vehicles waiting to turn left into the site. It would also remove the possibility of exiting vehicles cutting through the queue to make a left turn, which improves safety and speeds up right turn movements into the queue.

The comments also call for an additional vehicle lane along Mt. Newton Cross Road passing the site. If this is a westbound lane continuing to the Highway 17 intersection, this would likely help move queues downstream and away from the access.

## **6.0 RECOMMENDATIONS**

### **6.1 Lochside Drive / Ferguson Road intersection**

#### **6.1.1 Primary Recommendations**

WATT recommends that a crosswalk with side-mounted signs and RRFBs mounted back-to-back be implemented on the north leg of the Lochside Drive / Ferguson Road intersection with an extension of the west curb into the existing parking lane.

The crosswalk should feature the following:

- Side-mounted signs (PS-003-L/R) and RRFBs mounted back-to-back on each side of Lochside Drive for northbound and southbound traffic for a total of four (4) signs and four (4) RRFBs
- Pedestrian pushbutton with sign (PS-015-D) on each side, for a total of two (2) pushbuttons and two (2) PS-015-D signs
- Zebra crosswalk markings
- Northbound stopping prohibition for a minimum of 10 m north of the crosswalk

WATT also recommends that the existing gravel path from the northeast corner of the Lochside Drive / Ferguson Road intersection to the bus stop north of the intersection be replaced with concrete sidewalk.

#### **6.1.2 Optional Recommendations**

The following additional recommendations may be implemented time and budget permitting:

- Add a curb letdown to the northeast corner of the Lochside Drive / Ferguson Road intersection facing the new crosswalk to ensure accessibility for pedestrians with disabilities.
- Reduce the radius of the same corner. TAC recommends corner radii of 3.0 to 5.0 m at crosswalk locations.

### **6.2 Lochside Drive Speed Limit**

WATT recommends that the speed limit on Lochside Drive near the development site be reduced to 40 km/h.

**MEMORANDUM**

Date: 2024-05-03

To: Dale Puskas, P.Eng., District of Central Saanich

Subject: 7840 Lochside Drive - TIA Addendum

Sincerely,

**WATT Consulting Group**



**Noah Reeder, EIT**

Transportation Engineer-in-Training

**T** 250-388-9877 ext. 447

**D** 778-309-1843

**E** nreeder@wattconsultinggroup.com

**#WEAREWATT**



2024-05-03

**Andy Kading, P.Eng., P.E.**

Senior Transportation Engineer

**C** 236-464-3263

**E** akading@wattconsultinggroup.com

